

**REMARKS**

By the above amendments, claims 5 and 20 are revised and claim 17 is canceled to place this application in condition for allowance. Currently, claims 1-7 and 18-22 are before the Examiner for consideration on their merits.

First, the informalities noted in claims 5 and 20 have been corrected by the amendments to the claims. Claim 17 has been canceled since it is duplicative of claim 2.

Second, the Examiner's attention is directed to the fact that an IDS was filed on April 19, 2006 to submit a prior art reference cited in the corresponding Japanese patent application.

Third, Applicant respectfully traverses the rejection of all claims under 35 U.S.C. §§ 102(b) and 103(a) based on United States Patent No. 6,027,145 to Tsuru et al. (Tsuru). In review, claim 1 defines a process for the surface treatment of a threaded joint for steel pipes wherein a coating fluid containing a resin and a lubricating powder in a solvent is applied to the contact surface of at least one of the pin and the box, and the applied coating is dried by multistage heating which includes at least first stage heating in the temperature range of from 70°C to 150°C and second stage heating in the range of from higher than 150°C to 380°C to form a solid lubricant coating on the contact surface.

In the anticipation portion of the rejection, the Examiner contends that Tsuru teaches the claimed step of applying the coating fluid. The Examiner also asserts that

Tsuru teaches a step of drying and baking the applied coating in a temperature range of 180-270 °C.

To finalize the rejection based on anticipation, the Examiner admits that multistage heating is not expressly taught by Tsuru. However, the Examiner contends that the joint will experience a heating in a range of 70-150 °C as a result of going from room temperature to the heating temperature of 180-270 °C, and the heating up of the joint constitutes a first stage heating step of claim 1.

From the perspective of 35 U.S.C. § 103(a), the Examiner contends that if Tsuru does not teach the claimed multistage heating, the claims are still obvious. The grounds for this conclusion of obviousness is that employing a two stage heating would be obvious to one of skill in the art to improve heating and solvent removal efficiency.

The rejection is respectfully traversed under both positions espoused by the Examiner, and the arguments in support of the traversal are set out below under the respective heading of the relied-up statutes.

35 U.S.C. § 102(b)

Applicant contends that the Examiner is in error in considering Tsuru to teach a multistage heating process as presently claimed. In the rejection, the Examiner asserts that the joint will pass through a temperature in the range of the claimed first stage of heating because Tsuru heats the joint to a second temperature higher than the claimed range of the first heating stage. While this may be true, the question to be resolved is whether this occurrence in the Tsuru process can be interpreted to be the multistage heating of the joint of Tsuru as is defined in the claim. Put another way, while the joint of

Tsuru may rise in temperature to the temperature inside the furnace that is regulated to between 180 and 270 °C , the issue is whether the Examiner is correct in alleging that such a temperature rise is the same as what is claimed.

Applicant strenuously submits that claim 1 does not read on a heating step wherein a joint is merely heated to a given temperature; it says more than this. More specifically, the claimed process defines a first heating stage and a second heating stage, with each stage defining a particular temperature range. It is the "stage" that has the temperature range in claim 1, not the joint.

The Examiner is permitted to give the claims their broadest reasonable interpretation. However, contending that a claim that defines a multistage heating with a defined first stage heating at a particular temperature and a defined second stage heating at another temperature is the same as a heating step wherein a coating is heated in a particular temperature range is not reasonable when considering the specification and level of skill in the art. In the rejection, the Examiner is basically ignoring the fact that the claim defines two stages, and this dismissal of this claim term fatally taints the rejection. Tsuru just does not teach a two "stage" heating process by the disclosure of a single heating step. Since there is no legitimate basis for the Examiner to conclude that Tsuru teaches the claimed process, the rejection based on 35 U.S.C. § 102(b) must be withdrawn.

35 U.S.C. § 103(a)

In the alternative rejection, the Examiner contends that even if Tsuru does not teach a two stage heating step, it would be obvious to do so.

Applicants contend that the Examiner is speculating and has not met the PTO-imposed burden of establishing a *prima facie* case of obviousness against claim 1. The Examiner has pointed to no factual basis to draw the conclusion of obviousness that one of skill in the art would be taught to modify Tsuru and include two stages of heating.

Moreover, claim 1 is not just defining a two stage heating process; rather it defines a multistage heating process with specific temperature ranges for each heating stage. The Examiner not only has to conclude that it would be obvious to use two stages in the drying step of Tsuru, but also conclude that it would be also obvious to set the temperature range as defined in claim 1. There is no basis to draw this conclusion either. Given that Tsuru teaches a range of 180-270 °C, why set two different temperature ranges in two stages, one of which outside that of Tsuru? The Examiner has no basis for the allegation of obviousness other than to rely on the invention, and such reliance is the hindsight reconstruction of the prior art and cannot form the basis for the rejection.

Even, *assuming arguendo*, that the Examiner's position in this regard is legitimate, the specification has comparative evidence showing that unexpected improvements are attained when practicing the invention. This evidence effectively rebuts any allegation of obviousness made under 35 U.S.C. § 103(a).

In this regard, the Examiner's attention is directed to Table 5 on page 23 of the specification and the comparison between Ex. Nos. 1-7 and Com. Ex. Nos. 1-4. This comparison shows that coated steels that are either single stage dried, i.e., Com. Ex.

Nos. 1 and 2 or two stage dried in temperatures outside the claimed ranges, i.e., Com. Ex. Nos. 3 and 4, are inferior in terms of galling resistance.

This evidence shows two things. First, it reaffirms the argument above that merely heating something in a single stage is not the same as a two stage heating. If this were the case, then Com. Ex. No. 2 wherein a single stage drying at 240 °C is employed would result in the same galling properties as a coated steel that was subjected to a two stage heating. This is obviously not the case since Com. Ex. No. 2 exhibits much poorer galling properties as compared to the steels that were dried using a two stage heating sequence.

Second, the comparative evidence on its face shows that there is criticality in both the two stage heating step and the temperature ranges for each step. Com. Ex. Nos. 3 and 4 show that just using a two stage heating does not produce the same results as a two stage heating according to the invention. The evidence shown in Table 5 clearly demonstrates that there is criticality in the claimed multistage heating steps, and this evidence rebuts any contention that it would be obvious to employ more than one stage of heating in Tsuru. Therefore, the rejection based on 35 U.S.C. § 103(a) should also be withdrawn.

In summary, the arguments set forth above demonstrate that Tsuru neither anticipates nor renders claim 1 obvious and that the rejection based on this prior art reference must be withdrawn. The arguments also make it clear that even if the Examiner were to maintain the rejection under 35 U.S.C. § 103(a), the comparative evidence in the specification overcomes such a rejection.

Accordingly, the Examiner is respectfully requested to examine this application in light of this response and pass all pending claims onto issuance.

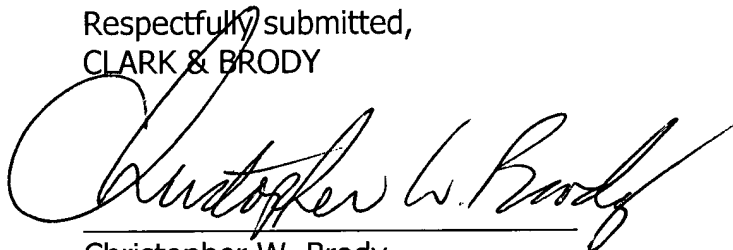
If an interview with Applicant's attorney would expedite allowance of this application, the Examiner is invited to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the Office Action dated January 25, 2006.

Again, reconsideration and allowance of this application is respectfully requested.

Applicant respectfully submits that there is no fee required for this submission. However, please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,  
CLARK & BRODY

A handwritten signature in black ink, appearing to read "Christopher W. Brody", written over a horizontal line.

Christopher W. Brody  
Registration No. 33,613

**Customer No. 22902**

1090 Vermont Ave. NW  
Suite 250  
Washington, DC 20005  
Telephone: 202-835-1111  
Facsimile: 202-835-1755

Docket No.: 12014-0017DV  
Date: April 24, 2004